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THE PLACE OF THE NEAR ORIENT IN THE CAREER  
OF MAN AND THE TASK OF THE AMERICAN  
ORIENTALIST\*

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UNDER THE PRESENT ARRANGEMENT of a rotating presidency, the American orientalist, at least once in his life, is vouchsafed the opportunity of unburdening his soul to his fellow orientalists at unrestricted length, in complacent emancipation from the terrors of the presidential stop-watch, which he himself at the same time is privileged to wield against his colleagues with the retaliatory rigor of the oriental *lex talionis*.

Following a precedent set by my distinguished predecessor, I am moved to speak today rather by the contemplation of the extraordinary situation in which students of the Orient now find themselves, than by the availability of some particular chapter or fragment of my own researches. For we are confronted today by a responsibility and an opportunity far surpassing in scope and promise anything which even our ardent American imagination of a year ago could have compassed or conceived. In a recent letter from Sir William Ramsay, in response to some suggestions which I had sent him regarding Asia Minor, he refers to the future government of Turkey in these words: 'I have always been much inclined to believe in harnessing America to this business. . . . I should like to see the administration of Turkey put into the hands of an advisory board consisting of men who know something about the country, its history, and its future possibilities. If I were asked, I could name the proper person as chairman, and he is an American . . . an American archaeologist and diplomatist combined.'

Leaving to more competent hands the problems of the well-being and happiness of the peoples living in the former Ottoman Empire, I find in Sir William Ramsay's proposal of an American archaeologist for a position of responsibility in the government of a large section of the Near East a suggestion of the vast extent

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of the obligation and the boundlessness of the opportunity now confronting American orientalists who are equipped to carry on researches in these birth-lands of religion and civilization.

Our responsibility as students of man is measured chiefly by the importance of early oriental civilization in the history of mankind viewed *as a whole*. It has long seemed to me that the commanding position of the lands of the Near East in the career of man has been largely obscured by our failure to view them in a deep and broad perspective of world history. It is only as we look far abroad, over many other social groups, that we can properly discern the genetic position of the cultures of the Near East; and we find them unexpectedly intelligible and surprisingly illuminated by the study of analogous situations elsewhere.

Professor F. J. Teggart of the University of California has recently written a very useful and penetrating essay in which this matter is touched upon. He complains of us orientalists that the investigator has limited his observation to the lands of the Nearer East.<sup>1</sup> I have read this statement with much satisfaction, because it accords entirely with my own experience. In endeavoring to make some of the cultural developments in the Near East intelligible to American high school boys and girls, I found admirable materials among the culture traits of the New World. Early Babylonian and Egyptian year-names and the beginnings of early oriental chronology find their best illustration and explanation in such things as the list of year-names recorded in a long series of seventy-one pictures on a buffalo hide made by Lone Dog, a Dakota Indian chief. Similarly the earliest efforts at writing in its pictographic stage may be found exemplified with wonderful clearness and interest in a North American Indian's autobiography narrated in a series of paintings on a buffalo skin which Col. Roosevelt once showed me hanging just inside his door at Sagamore Hill.<sup>2</sup> Such analogous individual culture traits, of which there are many, and which others have observed before, led me to look into the larger aspects of the physical situation of western culture as compared with that of our Near Eastern world.

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<sup>1</sup> F. J. Teggart, *The Processes of History*, Yale Univ. Press, 1918, p. 48.

<sup>2</sup> See Garrick Mallery, *Picture Writing of the American Indians*, Bureau of Ethnology, vol. 10 (1893).

It is now evident that there are only two regions on the globe in which man has risen from Stone Age savagery to the possession of agriculture, metals, and writing. The independence of these two regions in making these cultural conquests has been conclusively demonstrated. They are geographically widely separated. One of them is in the New World and the other in the Old, and each of them lies along, or on both sides of, a great inter-continental bridge, one joining the two Americas, the other connecting Africa and Eurasia. It necessarily lies outside the scope of this address to discuss what geographical significance there may be in the fact that, in both the Old World and the New, the bridge between the continents formed the center around which took place the development and diffusion of the highest civilization at first attained in either hemisphere.

An examination of the culture situation of the western world as a whole in pre-Columbian times is very instructive. In making a comprehensive reconstruction<sup>3</sup> of the career of man in the New World the Americanists have enjoyed enviable freedom from traditional prejudices like those of the old-school classicists, who felt it sacrilege to acknowledge the share of the Orient in the history of civilization, or those of the Egyptologists and Assyriologists, who are often more interested in proving the shores of the Nile or of the Euphrates to have been the oldest home of civilization than to establish the *facts*, whatever the result. To the Americanist it is evident that a culture trait of some complexity, like the cultivation of maize, when it is found *continuously* distributed over a wide area, has been so distributed by a process of diffusion from a common center, and that under such circumstances we cannot assume independent invention.<sup>4</sup> Without any preconceptions or inherited prejudices he may then proceed to find the center of diffusion for each such cultural conquest. If he finds the lines of diffusion of the most important culture traits persistently converging on the same center, he concludes that this focus was the original home of civiliza-

<sup>3</sup> An admirable reconstruction of this kind has been put together in an exceedingly useful book by Clark Wissler, *The American Indian*, New York, 1917, to which the above summary is much indebted.

<sup>4</sup> Wissler, *op. cit.*, p. 343, and E. Sapir, *Time Perspective in Aboriginal American Culture*, pp. 25-36.

tion in the New World. By this process he has shown that maize has descended from a wild grass in the Maya region of Yucatan,<sup>5</sup> whence it passed far across both continents from one hunting tribe to another as far as the habitat of each tribe permitted. Similarly the whole cotton complex, including the loom and upward weaving, spread from the middle region of America both northward and southward.<sup>6</sup> 'The distribution of pottery was still in progress at the opening of the period of discovery'<sup>7</sup> by European explorers in North America, and the inference is a fair one, according to Wissler, 'that it was distributed from the south,'<sup>8</sup> for, as he remarks, 'as we know that maize came up from the south, it is reasonable to suppose that pottery came by the same road.'<sup>9</sup> Similarly it was only the peoples on and around the inter-continental bridge who developed metallurgy, or who possessed the social and administrative organization to practice irrigation on a remarkably extensive scale. Many of the characteristics of the elaborate ritualism of the New World likewise spread from the middle region, especially from the Maya and Inca centers.<sup>10</sup> In the central region also we find the only writing, just in course of transition from the pictographic to the phonetic stage. It spread northward into Mexico, but did not penetrate into South America, which never possessed writing.

Here then we find disclosed in the Western World a nucleus of civilization occupying the middle region of the two continents,—a nucleus which led the cultural development of the entire Western Hemisphere. The leaders in this group were chiefly three peoples: the Maya of Yucatan, the Nahua of Mexico (including especially the Aztec), and finally the Inca of Peru. As over against the *other peoples* of the Western World, this group as a whole was immeasurably superior; while as compared with *each other*, the three members of the group differed greatly. The Maya of Yucatan may have been the original path-finders leading the other two; but it is very important to note that there

<sup>5</sup> G. N. Collins, 'Pueblo Indian Maize Breeding,' in the *Journal of Heredity*, vol. 5 (1914), No. 6, pp. 255-268; see Wissler, *op. cit.* pp. 27-28.

<sup>6</sup> Wissler, *op. cit.*, pp. 49-59.

<sup>7</sup> *Ibid.* p. 68.

<sup>8</sup> *Ibid.* p. 67.

<sup>9</sup> *Ibid.* p. 69.

<sup>10</sup> *Ibid.* p. 190.

was undoubtedly much interchange of mutual influences among the three, and that the other two in some particulars outdistanced the Maya. Thus, while the Maya never advanced to the production of copper tools, but put up all their great stone structures with only stone tools, the Aztec culture and especially the Inca of Peru had begun the production and use of copper or bronze implements. Similarly the Inca culture made itself so superior in decorative art that it became the center to which all the contiguous cultures were inferior.

The lack of writing throughout most of the territory of the New World has saved the Americanists from the regrettable narrowness, limitations, and often pedantry, of the old time philologist. To be sure, linguistic documents available in modern copies, transcripts, and treatises, besides the original inscriptions, have furnished the Americanists with an insurmountable mass of materials for philological investigation of the New World, and there have been sharp rivalries here between the linguist, the archaeologist, the ethnologist, and the physical anthropologist. All these lines of investigation therefore, and many others, have been indefatigably pursued, and an enormous body of observations and results representing them all has been built up by our Americanists. Neither have these results been kept in water-tight compartments, but the whole body of evidence, from whatever source or of whatever character, has been brought to bear on the career of man in the New World.

Turning from a situation like this, embracing both the continents of the Western Hemisphere, we may apply its lessons very instructively to the Old World. For the Old World is itself made up of two continents, Africa and Eurasia, and as we have already remarked, the earliest civilizations arose and spread on both sides of the inter-continental bridge between them. That the same processes of diffusion across and on both sides of the bridge, which the Americanist finds in the *New World*, were going on for thousands of years in the *Old World*, no one can doubt. But the situation in America has thus far required little consideration of the time element, a factor to which the Americanist is now beginning to devote some attention,<sup>11</sup> whereas in

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<sup>11</sup> See E. Sapir, *Time Perspective in Aboriginal American Culture*, Canada, Department of Mines, Geological Survey, Memoir 90, Toronto, 1916.

the work of the orientalist the time element has been perhaps the most obvious factor of all. For as far back as some six thousand years ago, that is early in the fourth millennium B. C., the peoples on the Nile and the Euphrates had reached essentially the same stage of culture attained by the Maya, Aztec, and Inca.

Grouped about the Old World inter-continental bridge from the Nile to the Euphrates, we have therefore a nucleus of cultures which after 4000 B. C. had reached about the same point of advancement as that attained in 1492 A. D. by the New World group in an analogous situation. Each group in its respective situation was the sole nucleus of civilization, and was far superior to the less advanced cultures stretching far across the great outlying continental areas. The diffusion of culture from the New World group, northward and southward across both continents, continuing as it did down into our own times, is like a laboratory experiment in human experience, set going for the benefit of us orientalists, and demonstrating to us what must have been going on around the Egypto-Babylonian group for thousands of years before the age of written documents. This conclusion is confirmed as we examine the relation of the Egypto-Babylonian group to prehistoric man round about it.

The discoveries of the last twenty-five years have revealed to us the career of prehistoric man, especially in Europe, so that its successive stages, clearly differentiated and stratigraphically observable, have been arranged in unquestionable chronological sequence through probably not less than 50,000 and perhaps nearly 150,000 years of struggle with the material world,—a struggle whose progress has left behind a long trail of ever more carefully wrought implements, at first of stone, and later of bone, horn, ivory, wood, and eventually copper: These remains not only carry us through age after age of cultural development on the part of man, but also of successive geological processes and changes in climate which have fashioned the present surface of the earth.

We see the hunters of prehistoric Europe wandering through the tropical forests, especially in the regions which are now France and Spain, but also across the land-bridges at Gibraltar and Sicily, which connected Europe and Africa until far down in the Neolithic Age. This intimate connection between southern Europe and northern Africa made culture diffusion

across the Mediterranean easy, and before the end of the Quaternary Age the entire Mediterranean was fringed with communities of palaeolithic hunters. Today their weapons of flint are found encircling practically the whole Mediterranean.

This fact brings the Near East into the great current of prehistoric life. Whether the rate of advance was uniform and the successive stages therefore contemporaneous at first all around the Mediterranean is uncertain. If compared with the southern shores of the Mediterranean, Europe was undoubtedly at a serious disadvantage, as the northern mantle of ice crept southward and thousands of years of rigorous cold set in. It is now evident that the south-eastern corner of the Mediterranean eventually drew away from prehistoric Europe, and probably from prehistoric Asia also. The great Pleiocene rift in north-eastern Africa, which we call Egypt, furnished a home in every way so sheltered, so generously supplied by nature, and in climate so benign, that it enabled the savage Stone Age hunters of the Sahara, who had taken refuge there in Quaternary times,<sup>12</sup> to leave Europe far behind in the advance toward civilization. As the Euphrates valley followed in this advance, it was in touch with the Nile culture, and there thus grew up the Egypto-Babylonian culture-nucleus on both sides of the inter-continental bridge connecting Africa and Eurasia.

Elsewhere, throughout the great prehistoric world of Africa and Eurasia, there was no culture higher than that of the savage or barbarous Neolithic hunting peoples, like those of the American continents on both sides of the central culture-nucleus. It is true that an enormous amount of detailed research remains to be done in the study of man's career in the eastern hemisphere, but enough has already been done to reveal the general situation. Long after the Egypto-Babylonian group at the nexus of the two continents had gained metal, writing, and highly developed government, the surrounding peoples far back into Africa and Eurasia had not yet gained these fundamental elements of civili-

<sup>12</sup> See M. Blanckenhorn, 'Die Geschichte des Nil-Stroms in der Tertiär- und Quartärperiode, sowie des palaeolithischen Menschen in Aegypten,' *Zeitschr. d. Gesell. f. Erdkunde*, 1902, pp. 753-762. Also G. Schweinfurth, 'Kiesel-Artefakte in der diluvialen Schotter-Terrasse und auf den Plateau-Höhen von Theben,' *Zeitschr. f. Ethnol.* 34 (1902, pp. 293-308) and two additional reports by the same observer, *ibid.* vols. 35 and 36.

zation and were still in a primitive stage of culture development. As we move out from the Egypto-Babylonian group the culture level declines and civilization fades and disappears.

The only other center of culture which might be compared in age with the Egypto-Babylonian group is China. Regarding the age of Chinese culture, however, there is wide misapprehension. The oldest *contemporary* annals of China written on wood and bamboo date from the second century B. C., and the shamanistic texts on bone, the oldest writing discovered in China, are dated by Laufer, as he has kindly informed me, in the second millennium B. C. The oldest dated specimens of bronze made by the Chinese belong in the latter part of the second millennium, and not one is safely datable earlier than the thirteenth century B. C. China's remarkable list of civilized contributions to the western world is very late. This is well illustrated by China's splendid gift of porcelain to the nations of the west after the development of modern sea trade with Chinese ports. The production of porcelain was an art which grew out of a knowledge not only of pottery but also of glass and glaze. The latter arose in Egypt as early as the thirty-fifth century B. C., and, spreading rather slowly to Western Asia, did not reach China until Hellenistic times, 'in the second century B. C. or earlier.'<sup>13</sup> The evidence all points to the conclusion that Chinese culture developed immensely later than that of the Egypto-Babylonian group, and there are few if any competent Sinologists who would dissent from this conclusion. While it is evident that China passed through a long development in detachment from the Western Asiatic world, nevertheless as Laufer has well stated, 'the conviction is gaining ground . . . that Chinese culture in its material and economic foundation, has a common root with our own.'<sup>14</sup> He would place this common source somewhere in Western Asia, without venturing to mention any particular geographical region. For myself I cannot doubt where this western source is to be placed. We must find it in the Egypto-Babylonian group; for the excavations in the regions of Asia surrounding this group, in Asia Minor, Turkestan, and Elam

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<sup>13</sup> B. Laufer, 'Beginnings of Porcelain in China,' *Publications of the Field Museum of Natural History*, Chicago, 1917, p. 139.

<sup>14</sup> B. Laufer, *Journal of Race Development*, 5 (1914-15), pp. 167-170.

(Persia), have disclosed very clearly the later and inferior character of the cultures there, and the direction of the culture drift; although the excessively early and totally ungrounded chronology set up by deMorgan and Pumpelly has obscured the real situation and misled many (see Thureau-Dangin's chronology below, note 21).

It is therefore quite possible to indicate in very general terms the relation of the Egypto-Babylonian group to the vast undeveloped prehistoric world of savagery and barbarism which, in the fourth and fifth millenniums before Christ, extended from the Atlantic across Africa and Eurasia to the Indian and Pacific Oceans. In the midst of this far-reaching wilderness of primitive life there was a single oasis of advanced culture from which the forces of civilization gradually diffused a higher type of life among the surrounding peoples. The movement of such influences, and the detachment of the group which eventually carried agriculture and cattle-breeding into China, lie so far back in the prehistoric age, that the practice of milking and of weaving wool had not yet developed.<sup>15</sup> Of such movements we shall never learn very much. On the other hand the process of diffusion continued far down into the historic age, and much of it therefore took place almost under our eyes.

Thus the excavations in Crete, especially the brilliant discoveries of Sir Arthur Evans, enable us to watch the course of cultural diffusion Europeward after civilization arose in the Egypto-Babylonian group. The drift of oriental civilization toward Europe is now clearly observable. Sir Arthur Evans has remarked: 'Ancient Egypt itself can no longer be regarded as something apart from general human history.'<sup>16</sup> The same statement may be made of Babylonia also, as a member of the Egypto-Babylonian group, though the civilization of Babylonia was retarded in reaching the Aegean world, because it did not lie on the Mediterranean as did Egypt, with the island outposts of south-eastern Europe just opposite.

Much of the culture drift from the Egypto-Babylonian group

<sup>15</sup> B. Laufer, *l. c.*

<sup>16</sup> Presidential address before the British Association for the Advancement of Science, Newcastle-on-Tyne, 1916, reprinted in *Annual Report of the Smithsonian Institution*, 1917, pp. 425-445; p. 442.

Asiaward took place also in the full light of the historic age. This is far too large a subject to be discussed here, but such obvious later examples as the borrowing of writing by the Iranians and East Indians, or the eastward expansion of the art of glazing just mentioned, will occur to all. This whole question of the relation of the Egypto-Babylonian group to the surrounding culture in Asia is of fundamental importance. There is a great fringe of Asiatic peoples, often politically and *always* culturally dependent on the Egypto-Babylonian group, which we have hardly begun to investigate. DeMorgan in Elam on the east, Pumpelly in West Turkestan on the north, a number of investigators in Asia Minor, lamentably incomplete and out-of-date researches in Phoenicia since Renan, and a series of well-conducted excavations in Palestine,—all these endeavors have raised almost as many problems as they have solved. Enough has been done, however, to demonstrate that the ancient civilizations of the Near East which we have called the Egypto-Babylonian group (including in this term the derived and dependent contiguous cultures) occupy a unique and commanding position as the earliest center of the diffusion of civilization in the long course of human development.

From these civilizations as our base we are able to push backward *up* the centuries and connect with the prehistoric stages which preceded civilization and developed into it; while in the other direction we may follow *down* the centuries from the civilizations of the Near East to the Neolithic barbarism of Europe which was stimulated into civilized life by the cultural influences from the other shores of the Mediterranean. In this vast cultural synthesis, embracing the whole known career of man, the civilizations of the Near Orient are like the keystone of the arch, with prehistoric man on one side and civilized Europe on the other.

We have thus articulated with the career of man as a whole the great nucleus of early civilizations around the inter-continental bridge, and in so doing we discern this Egypto-Babylonian group not only as the culmination of an enormously long prehistoric development going before, but also as the stimulating force which set going and long contributed to the secondary civilization of Europe. The investigation of the various stages in

the course of the process by which the Egypto-Babylonian group influenced the great world around it is still hardly begun. Similarly the course of the development within the group itself, and the relation to each other of the two leading members of the group, Egypt and Babylonia, make up a formidable series of problems almost untouched. The process of diffusion within the Egypto-Babylonian group, although retarded by the great expanse of Arabian desert thrust northward like a separating wedge between them, must have been going on from the remotest times. It is in dealing with this very problem that the current methods of oriental science have been characteristically exhibited.

Thus we find Hommel deriving Egyptian writing from that of Babylonia, and deMorgan following Hommel's conclusions as if they had become accepted scientific demonstrations. It seems never to have occurred to either of these investigators to examine Egyptian writing with reference to the environment in the midst of which it was being used. Egyptian writing is both a zoological and a botanical garden of fauna and flora peculiar to north-eastern Africa. It is likewise a workshop of tools and implements of exclusively Nilotic character. But having set up a superficial comparison between Babylonian and Egyptian writing, and having discovered a forced resemblance between two or three Babylonian and Egyptian signs, these scholars regard this flimsy evidence as sufficient to prove the Babylonian origin of Egyptian writing. Wherein lies the difficulty? The discernment of the truth demands a slight knowledge of the botany and zoology, and of the arts and crafts of the Nile valley; but these are things which lie quite outside of the grammar and the dictionary, or the philological apparatus with which the orientalist is frequently so exclusively armed and equipped.

The heavy burden of recovering and mastering the lost oriental languages has made us orientalists chiefly philologists and verbalists, equipped to utilize *written* documents, and a little perplexed and bewildered in the presence of other kinds of evidence. Our enormous philological task has led us to regard even the written documents rather as materials for building up the dictionary and grammar than as historical sources. As a fellow-sufferer from this too exclusively philological discipline, let me make it clear that I am not inviting my colleagues to this con-

fessional without being painfully aware that I must also kneel there myself! With an equipment like this we bear the responsibility of investigating a vast complex of civilizations, each of which has left behind enormous bodies of evidence *not in written form*, to say nothing of still surviving and little altered physical situations, the habitats environing these civilizations, all equally demanding investigation in many different and highly important respects. For example, the methods of the Americanists, which would have involved some attention to the difference between the flora and fauna of Asia and those of the Nile valley, would have spared us Hommel's unhappy theory of the Asiatic origin of Egyptian writing. Although Hommel's method was fundamentally wrong, nevertheless he was assuming with propriety the process of diffusion among the members of the Egypto-Babylonian group. To trace this diffusion successfully however will first require what has not yet been done, viz. the thorough and systematic investigation *by itself* of each culture of the group, employing all the available evidence, of whatever nature it may be, which is still observable in the habitat of each culture, just as the Americanists have been doing for North and South America. Let us glance for a moment at the different lines of the highly diversified evidence.

The most obvious is of course *written evidence*, which we have been employing to the exclusion of nearly everything else. We may therefore pass on from such evidence to that of *archaeology* already mentioned. The conscientious utilization of all archaeological evidence is a matter of surprisingly recent date. The classical archaeologists of the German expedition which excavated Olympia found prehistoric bronzes which they threw aside with indifference and finally left lying on a rubbish heap, where they were noticed by Sophus Müller, who rescued them and carried them to Copenhagen. There they are now preserved in the national museum. Such limited vision, which could find nothing of importance in prehistoric bronzes, has been all too prevalent in oriental research. One of the leading orientalists of Europe not so many years ago inspected a fine old Babylonian bronze statuette brought to him by an antiquity dealer, and refused to purchase it for the museum under his charge, with the remark, 'There is no inscription on it.' The evidence which it furnished, in the realm of form, technique, craftsmanship, cos-

tume, weapons, and the like, spoke a language with which he was not familiar.

How many Aegean archaeologists are at present, or in normal times would be, busily engaged in putting together the materials which will exhibit the transition from the old pre-Greek Aegean civilization, across the gap caused by the intrusion of the Greek barbarians, to the rise of Greek civilization after 800 B. C.! Have we any orientalists piecing together the archaeological evidence which undoubtedly would greatly aid in tracing the transition from the crude art of Urnina in Sumerian Lagash to the marvelous sculpture of Sargon and Naramsim at Semitic Akkad? All honor to the memory of Dr. Ward for the monumental repertoire of the lapidary art of Western Asia which he gave us. But his work is not, and probably was not intended to be, a stylistic study of the wonderful heraldic art of Babylonia, and for such studies we are still dependent upon classical archaeologists like Furtwängler and the younger Curtius, both of whom deplore the lack of such investigations by orientalists themselves.<sup>17</sup>

As a matter of history the archaeologist has not received a very hospitable reception in the ranks of orientalists. One recalls the somewhat brusque notice served on the prehistoric archaeologists by Lepsius when they presumed to invade the Nile valley and reported the presence of Stone Age man there. Or similarly the sarcastic reception accorded Puchstein, a classical archaeologist, forsooth, who, without any knowledge of Assyrian grammar, had the effrontery to invade the realm of Assyrian architecture, and the audacity to assume that he could understand architectural forms even when they arose on the shores of the Tigris! If the archaeologist is now finding himself somewhat more at home on the Nile than on the Tigris and Euphrates, that is in some measure due to the *rapprochement* between the classical archaeologists and the Egyptologists inevitably resulting from the disclosure of the intimate relations between the Aegean and the Nile as revealed by the excavations in Crete. Nevertheless even the preliminary special investigations in Egyptian archaeology

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<sup>17</sup> See A. Furtwängler, *Antike Gemmen*, 3, p. 2 and L. Curtius, 'Studien zur Geschichte der altorientalischen Kunst,' *Sitzungsber. der kgl. Bayer. Akad. der Wiss.* 1912, 7te Abhandlung.

are still so largely lacking that there are few men who would now venture to write a handbook of the subject like any one of a dozen on Greek archaeology.

Thus on both sides of the continental bridge the necessary fundamental archaeological investigations indispensable to a final comparison of the Babylonian and Egyptian cultures are largely lacking. Ask any one of a number of simple questions in the archaeological history of Western Asia and the answer is wanting. For example, when was the potter's wheel introduced into Babylonia? If we turn to Handcock's *Mesopotamian Archaeology* we find that all the information available to the author in discussing this fundamentally important matter was a statement from the archaeologically tenuous report of the last American expedition at Bismya. A year after Handcock's book appeared, Koldewey included some useful remarks on the subject in his popular book on Babylon,<sup>18</sup> but we are still ignorant of the date when the potter's wheel was first used in Babylonia.

As we now know that the potter's wheel appeared in Egypt in the early dynasties (at the latest the Third Dynasty, 30th century B. C.), the establishment of the date of its appearance in Babylonia would furnish a chronological comparison of the highest importance. If the Babylonian date should be later than that of the Egyptian potter's wheel, it would confirm the present indication already furnished by the Babylonian lapidary's adoption of the Egyptian bow-drill, viz. that the machine with revolving vertical shaft, including the crank-shaft drill, the bow-drill, and the potter's wheel, were of Egyptian origin and penetrated thence into Asia.

We are similarly ignorant of the date of the appearance of the composite bow in Asia, a weapon which has a record of shooting nearly fifteen hundred feet;<sup>19</sup> and which must have revolution-

<sup>18</sup> R. Koldewey, *Das wiedererstehende Babylon*, Leipzig, 1913, p. 247.

<sup>19</sup> See S. T. Pope, 'Yahi Archery' (in *University of Calif. Publ. in American Archaeology*, 13, No. 3, p. 125) who cites a record of 459 yards made in 1914 "with a very old Turkish composite bow," also *Badminton Library*, volume on Archery by C. J. Longman, who gives 482 yards as an authenticated record for the long-distance capacity of a composite bow in the hands of a Turk. This exceeds the *maximum* record of the simple long bow (360 yards) by nearly 35%, and its *average* record by probably over 100%.

ized ancient warfare like the introduction of the modern high-power rifle. It appears in Egypt in the sixteenth century B. C., and eventually passed clear across Asia into Alaska and down the Pacific coast of America to southern California, where it disappears.

The significance of the dates when a given cultural attainment appears in a succession of contiguous regions is strikingly brought out by a series of sequence maps each showing the distribution of a culture trait at a particular date. Thus in a map showing by means of shading the distribution of the art of glaze, only Egypt would be shaded in the thirty-fifth century B. C.; a map of the twenty-fifth century might possibly extend the shading to Crete; the fifteenth century would show the shading in Egypt, Crete, Syria, and perhaps Assyria; the eighth century would show it in Egypt, Syria, Mesopotamia, and probably Babylonia;<sup>20</sup> the fifth century would add Persia, and the second century even China. Until the archaeological investigation of the different centers in the Egypto-Babylonian group has gone far enough to enable us to build up sequence maps of this kind showing the diffusion of the fundamentals of civilization, we shall not be able to demonstrate the direction of diffusion as between Babylonia and Egypt, nor to determine which of these two great cultures was the original center.

Such a comparison will require also the recovery of the *prehistoric* culture of Babylonia. The discovery of the prehistoric cemeteries of Egypt twenty-five years ago, and the subsequent study of the archaeological evidence which they contain, have disclosed to us a culture development reaching back a thousand years earlier than the oldest remains yet found in Babylonia,<sup>21</sup> which it is now evident belong in the thirty-first or thirty-second centuries B. C. We still lack the prehistoric development of Babylonian culture, but the primitive character of Sumerian

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<sup>20</sup> Koldewey, *Das wiedererstehende Babylon*, Leipzig, 1913, pp. 242-250. It is evident that the forms of glass found by Koldewey at Babylon are Egyptian and must have been at first imported. Exactly when the *manufacture* of glazed ware and glass began in Babylonia is still unsettled.

<sup>21</sup> This is on the basis of the reconstructed Babylonian chronology of which the latest and most carefully documented statement has been furnished by Thureau-Dangin, in *La chronologie des dynasties de Sumer et d'Accad*, Paris, Leroux, 1918.

art in the thirtieth century B. C., as disclosed for example in the reliefs of Urnina, which are not as good as those of the Maya of Yucatan at a practically Stone Age stage of culture, shows that the beginnings of the civilized stage in Babylonia are not likely to have gone back very far in the fourth millennium B. C.<sup>22</sup>

Besides archaeological researches there are other lines of investigation quite indispensable to a solution of our great problems, and a very important place among these belongs to *physical anthropology*. Much discredit has of late been thrown upon statistics like those of brachycephaly and dolichocephaly, and I have heard and read remarks calculated to discredit all work in physical anthropology. But such research is not to be limited to craniometry, and important additional criteria are now being developed by physical anthropologists. Moreover it should not be forgotten that even the problems of *culture* may be most unexpectedly illuminated by a series of human bodies, especially if they are well preserved, as in the Nile valley. The earliest prehistoric graves of Egypt contain bodies which display the practice of circumcision, thus dating this custom in Egypt as far back as the Fifth Millennium before Christ, and probably establishing that country as the original home of the practice.<sup>23</sup> In the alimentary tracts of practically all of these earliest bodies of prehistoric Egypt investigation has demonstrated the presence of barley, while about ten per cent contain also millet.<sup>24</sup> These are the earliest known examples of domesticated grains, and the

<sup>22</sup> At this point the cultures of the Nile and of the Euphrates display plentiful archaeological evidences of diffusion from one to the other. Besides the hackneyed examples of the pear-shaped mace head and the cylinder seal, there is the use of animal and human figures as decorative motives in balanced, responsive, or antithetic arrangement. The earliest Egyptian examples are far older than those of Babylonia; but as Curtius has remarked ('*Studien zur Geschichte der altorientalischen Kunst*,' *Sitzungsber. der kgl. Bayer. Akad.* 1912, 7te Abhandlung), the Babylonian lapidaries, in their marvelous decorative art, have made much more whole-hearted, powerful, vigorous, and effective use of this heraldic decorative style than have the Egyptians.

<sup>23</sup> Elliot Smith, *The Ancient Egyptians*, p. 55.

<sup>24</sup> Netolitzky, 'Neue Funde praehistorischer Nahrungs- und Heilmittel,' in *Xenia, Hommage international à l'université nationale de Grèce à l'occasion du soixantequinzième anniversaire de sa fondation*, pp. 225 ff.; Hrozny, *Getreide*, p. 181.

point I wish to make here is that these significant discoveries in human culture were made on or in human bodies. Similarly such bodies offer our earliest materials for the study of disease among civilized peoples, the rise of the practice of surgery and dentistry, etc. Yet the ancient human bodies discovered by the last American expedition in Babylonia were thrown out on the rubbish heaps, as unworthy of preservation!

We have just referred to the domestication of grains, a matter which suggests the importance of *botany* and the whole range of vegetable life in the study of any ancient people. Fewer areas of the natural world have been more completely ignored by oriental research. Schweinfurth deplores the lack of interest in such studies among students of the ancient world.<sup>25</sup> Hrozny calls attention to an effort by one of his colleagues to identify an ancient Assyro-Babylonian sign for grain as a designation for maize, a cereal which did not reach the old world, as most of our children find out in kindergarten, until after the discovery of America!<sup>26</sup> Koernicke, the great specialist in cereals, urged upon the learned societies of Europe the importance of botanical investigation in the ancient lands of the Near East, and for many years endeavored to secure their support for a botanical expedition there, but without success.<sup>27</sup> For lack of such support it was not until 1906 that, under instructions from Schweinfurth and Koernicke, the wild ancestor of domestic wheat was found in Palestine by Aaronsohn.<sup>28</sup> This discovery demonstrates at once that the domestication of the wild grasses from which our

<sup>25</sup> Schweinfurth, *Annales du Service des Antiquités Égyptiennes*, Cairo, 1906, pp. 203-204.

<sup>26</sup> Hrozny, *Das Getreide im alten Babylonien*, p. 4; compare *Zeitschr. f. Assyriologie*, 23, p. 40.

<sup>27</sup> Schweinfurth, *ibid.* pp. 193 ff.

<sup>28</sup> Aaronsohn and Schweinfurth, 'Die Auffindung des wilden Emmers in Nord-Palaestina,' *Alt-Neuland*, 3, No. 7-8, pp. 216-220; *Vossische Zeitung*, Sept. 21, 1906, republished in *Annales du Service des Antiquités Égyptiennes*, Cairo, 1906, pp. 193-204; O. F. Cook, 'Wild Wheat in Palestine,' U. S. Dept. of Agric., *Bureau of Plant Industry, Bull.* No. 274, Washington, 1913; G. Schweinfurth, 'Ueber die von A. Aaronsohn ausgeführten Nachforschungen nach dem wilden Emmer,' *Berichte der Deutschen Botanischen Gesell.* 26a (1908), pp. 309-324; A. Aaronsohn, 'Agricultural Explorations in Palestine,' U. S. Dept. of Agric., *Bureau of Plant Industry, Bull.* No. 180, Washington, 1910.

cereals are descended took place in the region of the inter-continental bridge, and was the work of the peoples of the Egyptian-Babylonian group. For the wild wheat or emmer (*Triticum dicoccum dicoccoides*, or better *hermonis*, Cook), is always found in company with wild barley (*Hordeum spontaneum*), while wild rye (*Secale montanum*) and wild oats (*Avena strigosa*) are found in the same region, the last in Egypt. There can be no doubt that the occurrence of all these wild ancestors of our leading cereals in this region indicates where they were domesticated. The settlement of this question is another fatal blow to the theory of western origins set forth in S. Reinach's very able essay *Le Mirage Oriental*.

Whether the rise of agriculture took place in Babylonia or Egypt is still an unsettled question. Hrozny has made the interesting observation that the Babylonian word for emmer, or split wheat, the earliest form of cultivated wheat, viz. *bututtu*, is the same as its Egyptian name, *bodet* (*bojet*). Hrozny concludes at once that the Egyptians borrowed it from Babylonia.<sup>29</sup> But the word is as old in Egyptian documents as in those of Babylonia, while *the thing it designates* can be traced back in Egypt to a point a thousand years earlier than as yet in Babylonia. The evidence thus far available therefore is more favorable to a diffusion from the Nile to the Euphrates<sup>30</sup> than the reverse. It can be demonstrated also that the Egyptians devised the plow by an adaptation of the hoe, showing that the plow grew up in the course of the evolution of the Egyptian wheat and barley complex as a Nilotic product.\*

The consideration of the plow, involving a draught animal, raises the whole question of *animal life* and its far-reaching importance for the investigation of the ancient world. Yet what have we orientalists accomplished in the utilization of the vast

<sup>29</sup> F. Hrozny, 'Das Getreide im alten Babylonien,' *Sitzungber. der Kaiserl. Akad. in Wien, Phil-hist. Classe*, 173, 1ste Abhandl., pp. 69-70.

<sup>30</sup> Although wild emmer has not yet been found in north-eastern Africa, it should be noted that botanical exploration there is still far from complete, and the nummulitic limestone crevices where Aaronsohn commonly found his wild emmer growing abounded in the limestone river terraces of the prehistoric Nile.

\* See demonstration in the author's William Ellery Hale Lectures, soon to be published in the *Scientific Monthly*.

body of evidence available in the fauna of the monuments? The only comprehensive treatises available are those of specialists in animal husbandry, general zoologists, and palaeontologists. These students of the natural world, however great their ability, have not commanded the monumental material which would enable them to reach final results.<sup>31</sup> The investigations of Duerst, based on insufficient materials, and much affected by the now discredited older chronology of Western Asia, especially the excessive dates computed by deMorgan, have led him to find the origin of the leading domestic animals in Asia. Later investigations by the very able Frenchmen, Lortet and Gaillard, covering a larger body of ancient remains than have ever before been at the disposal of any scientist, have shown that Duerst's alleged demonstration of an Asiatic origin of the domestic cattle of Egypt is without foundation. Hilzheimer has recently identified the wild ancestor of the long-horned cattle of Egypt (*Bos africanus*) on monuments from more recent excavations<sup>32</sup> not known to Duerst. In confirmation of Hilzheimer came news of the fact that a portion of the actual skull of the wild ancestor, the urus (*Bos primigenius*) of pleistocene age, had been found in Egypt. As Lortet concludes, therefore, there is no occasion to seek the wild ancestors of the earliest domestic animals of ancient Egypt in Asia. They lived in Africa and were domesticated in the lower Nile valley at an enormously remote date. They are shown already domesticated on monuments as old as the middle of the Fourth Millennium B. C.

This is far too large a subject to be discussed, as I am obliged to do it here, in a paragraph, and I hope to return to it elsewhere with sufficient space to employ all the available monumental material, which is exceedingly interesting and significant. The discovery of the skull of the urus just mentioned suggests the importance of *geology* in our researches. The exploration of

<sup>31</sup> The leading treatises are: Lortet and Gaillard, 'La Faune momifiée de l'ancienne Egypte,' *Archives du Museum d'Histoire naturelle*, Lyons, 1903 on; Keller, *Abstammung der ältesten Haustiere*, Zürich, 1902; Duerst, *Die Rinder von Babylonien, Assyrien und Aegypten*, Berlin, 1899; Hilzheimer, *Die Haustiere in Abstammung und Entwicklung*, Stuttgart, 1910.

<sup>32</sup> Hilzheimer, in Borchardt, *Das Grabdenkmal des Koenigs Sa'-hu-Re*, vol. 2, Text, pp. 173-175.

the pleistocene river terraces of Egypt has hardly begun, and we know almost nothing of what they may contain of animal and human remains. But a beginning has been made, and the researches of Blanckenhorn on the geology of the Nile rift have furnished a sound basis for further investigation.<sup>33</sup> On the other hand the inaccessibility and insecurity of the Euphrates and Tigris regions hitherto have so retarded such investigation in these two river valleys that their detailed geology is quite unknown. Not only the buried evidence of the Tigris and Euphrates river terraces, but even the surface evidence, still remains absolutely untouched. Along these terraces, either on or under the surface, must be found the bodies and the works of men, and the bones of animals, which will enable us to recover the lost prehistoric chapters of the human career in Western Asia. It is important to notice that the prehistoric burials which have revealed the pre-dynastic culture of the fourth and fifth millenniums in the Nile valley were not found in the alluvium, but alongside it in the river terraces. Who knows what those terraces may yet yield along the two rivers?

It should be remembered also that pottery and other evidences of human handicrafts have been found by borings in the lower levels of the Egyptian alluvium as deep as 85, 71, and 87 feet.<sup>34</sup> These remains must date from the Glacial Age (of Europe), thousands of years before the earliest prehistoric cemeteries of Egypt. The alluvium of Babylonia, like that of Egypt, being the latest geological creation of the river, is intimately involved in the career of the prehistoric men who dwelt upon it, and it is highly important to determine the age of the venerable Plain of Shinar, as the Hebrews called earliest Babylonia. Based on the evidence that Eridu was a sea-port some four thousand years ago, though it is now perhaps a hundred and twenty-five miles from the Persian Gulf, one may calculate that about 7000 B. C.

<sup>33</sup> A convenient summary of his volume on the subject will be found in an essay by Blanckenhorn, 'Die Geschichte des Nil-Stroms in der Tertiär- und Quartär-Periode,' etc., *Zeitschr. d. Gesell. f. Erdkunde*, 1902, pp. 694-722, 753-762.

<sup>34</sup> Horner, 'An Account of Some Recent Researches Near Cairo, *Phil. Trans. of the Royal Soc.*, London, 1855, pp. 105-138, and 1858, pp. 53-92; and deMorgan, *Recherches sur les origines*, 1, Paris, 1896, p. 19.

the Babylonian plain was just beginning to form, and the site of later Babylon did not yet exist. I have been using this computation in university lectures for several years past as an obvious fact and the same observation has now been published by Petrie.<sup>35</sup> On the other hand Sir William Willcocks has recently called attention to the fact that Eridu, though long an inland river town, might have been a sea-port on the river, like Bosra, and the fact that it was a port four thousand years ago does not show that it was on the Persian Gulf<sup>36</sup> at that time. In response to my query regarding the distribution of the alluvium which had come down around Eridu in the last four thousand years, Sir William has very kindly written me explaining that in his judgment the delta had expanded sidewise [meaning, I take it, as one opens a lady's fan] and not by advance of the shore-line parallel with itself. This would complicate such calculations as the one just offered. It is evident that the final resolution of this important problem will require the collection and critical scrutiny of all the documentary evidence available, combined with an exhaustive examination of the region by a specialist in recent and surface geology, who should also be familiar with the valuable observations which the long experience of Sir William Willcocks with the rivers of the Orient has so thoroughly equipped him to make.

The *hydrography* of the Near East is also a problem of the greatest importance in our researches. There seems to be an impression that any country in a region of rainy winter and dry summer must necessarily resort to irrigation,—a supposition of course disproved by northern Mediterranean countries like Greece, where grain has always been cultivated and brought to harvest without irrigation. An eminent orientalist refers to the 'heavy rainfall' of Babylonia, whereas it was the fact of a rainfall of less than three inches which inexorably forced the early Sumerians to resort to irrigation. The necessity of controlling the floods for the purposes of agriculture thus became the most influential factor in their material life, and of course profoundly

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<sup>35</sup> W. M. F. Petrie, *Eastern Exploration Past and Future*, London, 1918, p. 69.

<sup>36</sup> Sir Wm. Willcocks, *From the Garden of Eden to the Crossing of Jordan*. French Institute, Cairo, 1918.

modified their traditions, their religion, and their whole conception of life.<sup>37</sup>

As we look out over the eastern hemisphere, with its great central nucleus of Egypto-Babylonian culture on each side of the inter-continental bridge, and realize that throughout these birth-lands of civilization both the life of man, and the nature and characteristics of his habitat always conditioning that life, are now opened to unrestricted investigation by the collapse of the Ottoman Empire, it is evident that we need the assistance of men thoroughly trained in archaeology, physical anthropology, botany, paleontology, geology, meteorology, and anthropo-geography. These men cannot of course all be orientalists, nor do they need to be so. But one or more such men should at different times accompany every American expedition which goes into the field. There is little doubt that the universities would be willing to contribute the services of natural scientists, who would gladly coöperate, and, as expedition members under no expense, would give us their needed aid from season to season. Only in this way shall we accomplish in the Old World what the Americanists are so successfully doing for the New.

Finally may I offer a few further constructive suggestions? The departments of oriental studies which the American universities are now maintaining are built up, as we all know, on the model of a traditional department of Greek or Latin organized to teach languages. The futility of such an arrangement is evident when it is recognized that we are engaged not only in teaching oriental languages, but also *in recovering a great group of lost civilizations*. It is obvious that the orientalist who is a university teacher is as unable to meet the requirements of his science single-handed as the astronomer would be to study the skies without his observatory or his staff of assistants. He cannot do his work without a properly equipped building, which should be a veritable laboratory of systematic oriental research, containing *all the available evidence of every kind and character*, whether in originals or reproductions, in photographs, hand copies, drawings, surveys, maps, plans, note-books, and journals,

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<sup>37</sup> See Ellsworth Huntington's valuable contributions to this subject in '*The Pulse of Asia*' and various monographs.

filed in systematically arranged archives. This equipment is as necessary to a proper study of the career of man as an astronomical observatory with its files of observations, computations, and negatives to an investigation of the career of the universe. It is evident that, wherever possible, not only the methods but especially the equipment of natural science should be applied to our study of man in the Orient, because not only the vast body of documents which he has himself left behind, but also *all data and observations revealing the conditions of his life*, must be systematically gathered, filed, and housed together, as are the data of the astronomer.

As a whole such an institution might be known as the Oriental Institute. In coöperation with the director of the institute the members of the oriental department should all have their individual workshops in the building, like the staff of an observatory, and liberal provision should be made for clerical help in accessioning, filing, recording, copying, and editing for publication. A modern photographic equipment with dark-rooms and apparatus for projection and copying should form a part of the whole plant. Combined with this should be a draughting room with at least one skilled draughtsman for preparing maps, plans, diagrams, and fac-similes. Young men and women holding departmental fellowships might make a part of this personnel, but stipends for young assistants already in possession of the doctorate should also be made available. Through the generosity of Mr. John D. Rockefeller, Jr. and the sympathetic coöperation of President Harry Pratt Judson, the Board of Trustees of the University of Chicago have just founded an Oriental Institute which will endeavor to carry out a program for the collection, organization and study of evidence such as that just suggested. The Institute will be housed in the Haskell Oriental Museum, which will thus become a kind of historical laboratory, with ample room for the installation of the equipment and arrangements above enumerated. Besides the necessary clerical help, its staff will be made up of the members of the Department of Oriental Languages of the University of Chicago.\*

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\* It was not yet possible to announce Mr. Rockefeller's gift and the organization of the new Oriental Institute at the time when this address was delivered, and it here forms a later insertion. A fuller announcement will be found in the *American Journal of Semitic Languages*, July, 1919.

The Oriental Institute should maintain *close relations with the scientific departments* of the university, and should include in its records and its files data furnishing full information along the lines of natural science already discussed in this address. At the same time the small group of universities capable of maintaining these Oriental Institutes should coöperate, and each institute should make every effort to supplement the work of the others and avoid unnecessary duplication, just as we find the various astronomical observatories of the country are doing.

The astronomer is often required to visit distant regions to make his observations. This is *constantly* true of the orientalist. The budget of the institute should therefore make liberal provision for traveling expenses for an annual visit by the director or one of his assistants to the lands of the Near East. The essential additions to the archives of the institute which would result are so obviously necessary that they furnish every motive for granting the orientalist sufficient freedom from a teaching programme to enable him to make periodic visits to the East.

The presence of these orientalists in the regions where the great problems of future humanistic research are to be solved might be of essential value to a comprehensive organization, effected for systematized investigation in the lands of the Near East, having a fully developed staff and a permanent home there. For it is evident that to do this work in statesmanlike recognition of all the requirements, to organize the attack along all the lines of investigation demanded by the situation, it will be necessary to establish a permanent American Institute in the Near East with two branches working in close coöperation: one in Asia and the other in the Nile valley.

The Asiatic headquarters should carry on a comprehensive campaign of investigation, excavating wherever necessary in Babylonia and Assyria, but also in the contiguous regions of the dependent and derived cultures. Our responsibility for research in Palestine will be met by the new American School of Oriental Research in Jerusalem. Syria furthermore is a region dotted with a surprisingly large number of buried cities, which have been almost completely neglected, although they are likely to furnish decisive bodies of evidence in tracing the diffusion of culture from Babylonia and Egypt to Asia Minor. Simi-

larly Asia Minor itself should be a prime object of attack, not only in clearing up the problem of the Hittites, but also as a channel of connection by which early oriental civilization passed into Europe. Indeed the correlation of the whole ancient Near East with the development of early Europe should be one of the leading tasks of the enterprise.

While recognizing, as I have done, the fundamental importance of all researches in natural science, anthropology, archaeology, etc., which can in any way throw light on the course of human development, it would at the same time be an unjust distortion of the situation not to include also in the work of the suggested American Institute the vast mass of written evidence. There is crying necessity for a systematically organized effort to save all the inscribed monuments and written documents from destruction, and to publish them in a final and permanent corpus. A carefully developed subdivision of the American Institute should be organized especially for this work and generously supported.

Space and time will not permit even a sketch of the organization of the suggested American Institute in the Near East, but I believe that the project can be so draughted as to command the respect and support of the administrators of our great financial foundations. As we have seen, it is only in the Near East that the lacking stages in our knowledge of the human career, the stages which carried man out of savagery and far along into the age of civilization, can be recovered and restored to their proper place in a great synthesis of the developing universe which the progress of scientific research is now making it possible to build up.

Would not our astronomers all agree that it is as important to trace the path along which our father Man has struggled up from savagery to civilization as to determine the orbit of any celestial body? Would not our paleontologists acquiesce in the statement that an endeavor to reconstruct and recover the lost chapters of man's story is as worthy of support as the effort to recover every stage in the development of a creature little larger than a rabbit until he expands to the proportions of a horse? It is a pleasure to record that when I submitted this question to Dr. R. S. Woodward, President of the Carnegie Institution of Wash-

ington, he cordially assented, but added that he regarded the suggested investigation of man as the *more important*.<sup>38</sup>

In seeking support for oriental research, therefore, the worth and dignity of our great task should move us to claim all that is conceded to the natural sciences. Are we not engaged upon later phases of the same vast process of development which they are investigating? Taine, the greatest of the French historians, has remarked in one of his published letters, 'I love history because it shows me the birth and progress of justice; and I find it all the more beautiful in that I see in it the ultimate development of nature.' Our endeavors to recover the lost stages in the career of man therefore follow in unbroken sequence the researches of natural science.

To us, who are the youngest children of time, it must always be not only a matter of vital human interest, but likewise a tribute of filial piety, to raise the misty curtain of the years and to peer behind into the far-off ages, whence, in the course of this development, our European ancestors first received their precious legacy of civilization; and in this crusade of modern scientific endeavor in the Near East we know what the first crusaders could not yet discern, that we are returning to ancestral shores.

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<sup>38</sup> Since the conversation mentioned above, Dr. Woodward has kindly written me, reiterating his reply to my question, and discussing the whole question of humanistic research with great cogency and penetration.